Improving Drought Monitoring and Forecast Operation at CPC

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ABSTRACT

Drought is a leading natural disaster for the United States. Recent droughts caused more than 10 Billion economic and property damages. Improve monitoring and prediction of drought in near real time can lead to better planning to reduce the severity of drought damages. The projects from the Climate Test Bed (CTB) improve the ability of CPC to monitor drought and give timely information to forecasters for their Drought Outlook operation. The major accomplishments are:

1. Develop probabilistic drought monitoring. This new framework takes into consideration of uncertainties in drought indices and provides the regional information of drought classification. It also estimates the best or worst scenarios in near real time and the probability for them to occur.

2. Assessment of the hydroclimate prediction based on the NMME. The NMME forecasts of precipitation and surface temperature from multiple models are used to drive a land–surface model (VIC) to derive soil moisture and runoff forecasts. These forecasts were compared to the forecasts made from the ESP forecasts. This allows forecasters to establish metric for the drought forecasts.